

National Aeronautics and
Space Administration

John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

ENVIRONMENTAL NEWSLETTER

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About NASA Kennedy Space Center

Carved out of virgin savanna and marsh in the early 1960's as the departure point for Project Apollo's manned explorations of the moon, the John F. Kennedy Space Center (KSC) has primary responsibility for ground turnaround and support operations, pre-launch checkout and launch of the Space Shuttle and its payloads, including NASA's eventual Space Station.

KSC occupies 140,000 acres and is located on the east central coast of Florida. It is at a transition zone between the warm temperate Carolinian Zoogeographic Province to the north and the subtropical Caribbean Zoogeographic Province to the south. Therefore, biological diversity is high with species from each region being present. More than 1000 species of plants, 115 species of fish, 315 species of birds, 65 species of amphibians and reptiles, and 25 species of mammals have been identified on site. Federal and state listed endangered and threatened species total 22 and the area is considered by many as critical for the maintenance of regional scale biodiversity as a result of rapid loss of habitat to commercial and agricultural development.

The major landscape categories at KSC consist of 50,000 acres of oak palmetto scrub and pine flatwoods uplands, 35,500 acres of wetlands and impounded high marsh, and 54,500 acres of open estuarine lagoon. NASA currently utilizes approximately 6,700 acres for facilities related to space program operations. The remainder of the area is managed by the Department of Interior as the Canaveral National Seashore and the Merritt Island National Wildlife Refuge.

KSC is in many ways similar to an urban industrial area for within the boundaries are more than 400 buildings and trailers and 650 acres of roads and railroad and the 800-acre shuttle landing facility. The labor force at KSC lives in surrounding communities and varies widely, depending on operations and new construction activities, ranging from a low of 6300 people in 1964 to a high of 22,000 in 1969. Current employment is approximately 20,500. Tourism represents a significant activity at the Space Center with more than 1.5 million visitors annually.

Resource Conservation and Recovery Act and Hazardous and Solid Waste Amendments

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 as an amendment to the Solid Waste Disposal Act (SWDA). The primary objectives of RCRA are to protect human health and the environment, and to conserve valuable material and energy resources. The most important aspect of RCRA is its establishment of "cradle-to-grave" management and tracking of hazardous waste, from generator to transporter to treatment, storage, and disposal. Other aspects of RCRA include the development of solid waste management plans; prohibition of open dumping; encouragement of recycling, reuse, and treatment of hazardous wastes; establishment of guidelines for solid waste management; and promotion of beneficial solid waste management, resource recovery, and resource conservation systems.

RCRA requires the United States Environmental Protection Agency (EPA) to promulgate and enforce regulations regarding the management of hazardous waste. It is these regulations which set out the mandatory procedures and requirements for compliance with RCRA and which must be followed by facilities that accumulate, transport, treat, or dispose of hazardous waste.

In 1984, the Hazardous and Solid Waste Amendments (HSWA) reauthorized and amended RCRA and imposed new and far-reaching requirements on the management of hazardous waste. The amendments established programs to regulate small quantity generators of hazardous waste (between 100 and 1,000 kg of waste monthly), restricted land disposal of hazardous waste, established minimum technology requirements for land disposal units, required corrective actions for releases of hazardous waste, regulated underground storage tanks containing petroleum products or hazardous substances, initiated listing of new materials as hazardous wastes, and set deadlines for EPA to issue or deny hazardous waste facility operating permits.

Investigation of Potentially Contaminated Solid Waste Management Unit Sites on KSC

In 1986, KSC received a HSWA Permit from the United States EPA Region IV and the Hazardous Waste Operation Permit from the Florida Department of Environmental Protection (FDEP); together both permits constitute a full RCRA permit. A portion of the EPA permit identified a number of sites that required investigation to determine if past NASA space operations had released contaminants into the environment. These sites are called Solid Waste Management Units (SWMU's). The definition of a SWMU is "any location where solid wastes have been used or stored at any time, regardless of whether that place was intended for the management of solid or hazardous waste or not. Such locations include any area at any facility where solid wastes have been routinely and systematically released." A solid waste is any discarded material that is not excluded by Federal Regulations. These excluded materials include: domestic waste, industrial wastewater, irrigation return flows, nuclear material, paper manufacturing waste, spent sulfuric acid used in the making of sulfuric acid, and materials reclaimed to be used in the process that generated those materials. An Area of Concern (AOC) is defined as a non-routine release of chemicals or fuel that requires KSC investigation.